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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

KYLE, MICHAEL J

ART UNIT

PAPER NUMBER

3676

DATE MAILED: 07/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/052,353

Applicant(s)

KONO, TORU

Examiner

Michael J Kyle

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "split parts 101" (page 1, line 24). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. Figures 15-18 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
3. The proposed drawing corrections discussed in the amendment filed on June 26, 2003, have not been received.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 6 is rejected under 35 U.S.C. 102(b) as being anticipated by Bagepalli et al (U.S. Patent No. 6,030,175). Bagepalli et al discloses a brush seal device in which splitting surfaces (48, 50, 56, 58, 60, 62) of a plurality of split body parts (26, 28, 30) are combined with one

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another and which is mounted to one of opposed component members (78) so as to seal a gap between the component members (76, 78) comprising a brush seal (32) formed in a wall shape, the split body parts (26, 28, 30) which hold the brush seal and each of which has connecting portions (30) that are split and that extend along the splitting surfaces wherein in each of the splitting surfaces has not only an axial step, but also a radial step. The examiner refers to figure 2 of Bagepalli et al, which shows an axial step (in the direction of 42) between body parts (26, 28), and a radial step between parts (26, 28) and (30), along the splitting surfaces. The examiner notes that surfaces 50, 58, and 62 comprise a single splitting surface, and surfaces 48, 56, and 60 comprise another splitting surface.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 2, 4-5, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bagepalli et al (U.S. Patent No. 6,030,175) in view of Tong (U.S. Patent No. 6,431,550). Bagepalli et al discloses a brush seal device in which splitting surfaces (48, 50, 56, 58, 60, 62) of a plurality of split body parts (26, 28, 30) are combined with one another and which is mounted to one of opposed component members (78) so as to seal a gap between the component members (76, 78) comprising a brush seal (32) formed in a wall shape in the longitudinal direction of a fixture portion (64) which is fixed at one end thereof, the split body parts that hold the brush seal

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(32) and each of which has connecting portions (30) that are split and that extend along the splitting surfaces. Bagepalli et al also discloses each of the splitting surfaces is composed of splitting direction extending surfaces that extend in such a direction as to split the split body parts and a longitudinal surface that extends in the longitudinal direction of the split body parts (26, 28) and that forms a step interposed between the splitting direction extending surfaces (figure 1, surfaces 58 and 50 form a step). Bagepalli et al does not disclose that each of the splitting direction-extending surfaces has shutoff means for sealing a gap between the splitting direction extending surfaces that are combined with each other.

8. Tong teaches shutoff means (52) for sealing a gap between splitting direction extending surfaces that are combined with each other (figure 4), in order to prevent leakage through a potential gap between seal ring segments. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bagepalli et al as taught by Tong in order to prevent leakage through a potential gap between seal ring segments. In addition, Tong teaches the shut off means (52) has longitudinal contact surfaces formed in a step structure (60, 62) of splitting direction extending surfaces and is constructed in a joining portion where the contact surfaces are joined with each other.

9. With respect to claims 4 and 5, Tong teaches that the shutoff means is constructed of an elastic sealing plate that extends across and shut off the gap between opposed faces of the splitting direction extending surfaces. The examiner considers the brush seal (52) of Tong, as a whole, to form a plate. Tong also teaches the shutoff means (52) is constructed of an elastically deformable plate sealing portion that is disposed between opposed faces of the splitting direction

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extending surfaces so as to shut off the gap therebetween and that is joined with the opposed faces.

10. With respect to claim 7, Bagepalli et al discloses a brush seal device in which splitting surfaces (48, 50, 56, 58, 60, 62) of a plurality of split body parts (26, 28, 30) are combined with one another and which is mounted to one of opposed component members (78) so as to seal a gap between the component members (76, 78) comprising a brush seal (32) formed in a wall shape, the split body parts (26, 28, 30) which hold the brush seal and each of which has connecting portions (30) that are split and that extend along the splitting surfaces, and that each splitting surface has an axial step (between body parts 26 and 28). Bagepalli et al does not disclose that sealing means are disposed between opposed faces of splitting direction extending surfaces of the splitting surfaces.

11. Tong teaches sealing means (52) disposed between opposed faces of splitting direction extending surfaces of the splitting surfaces for sealing a gap between splitting direction extending surfaces that are combined with each other (figure 4), in order to prevent leakage through a potential gap between seal ring segments. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bagepalli et al as taught by Tong in order to prevent leakage through a potential gap between seal ring segments.

12. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bagepalli et al in view of Tong as applied to claim 2 above, and in further view of Julien et al (U.S. Patent No. 5,226,683). Neither Bagepalli et al nor Tong discloses the shut off means has a sealing plate made from a super-elastic alloy material on the contact surfaces.

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13. Julien et al teaches the use of a sealing plate made from a super-elastic alloy material in order to provide a seal that can be reused many time without losing it sealing effectiveness (column 1, lines 42-45). Therefore, it would have been obvious to one of ordinary skill in the art to modify the seal of Tong as taught by Julien et al in order to provide a seal that can be reused many times without losing its sealing effectiveness

Response to Arguments

14. Applicant's arguments filed June 26, 2003, have been fully considered but they are not persuasive. Examiner notes that the proposed drawing corrections discussed in the amendment filed on June 26, 2003, have not been received.

15. Applicant states that Bagepalli et al fails to disclose split body parts having connecting portions that extend along the splitting surfaces. The examiner notes the surfaces 48 and 50 of Bagepalli et al can further be considered splitting surfaces. Therefore, Bagepalli et al does disclose split body parts having connecting portions (30) that are split and extend along the splitting surface, when surfaces 48 and 50 are further considered to be part of the splitting surface.

16. Applicant also argues that the "shutoff means" is a means-plus-function limitation, therefore, the shutoff means must be construed to cover the corresponding structure described in the specification and equivalents thereof that perform the same function. Firstly, the examiner notes that in the present application, page 19, lines 4-6, state, "The elastic sealing plate 10B constitutes the shutoff means". Secondly, the examiner notes that the function of the shutoff means is described in the specification of the present application as being "for sealing a gap

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between the splitting direction extending surfaces that are combined with each other” (page 7, lines 18-20). Tong discloses a brush seal (52), which the examiner considers to be the shutoff means. The examiner further considers this brush seal to form an elastic sealing plate. The examiner asserts that the brush seal demonstrates elastic properties, and can be considered a plate, based on how it is shown in figures 6 and 7. Furthermore, Tong discloses the brush seal to serve the function of “preventing oil leakage through this potential gap between seal ring segments” (column 2, lines 61-62). Therefore, Tong meets the corresponding structure described in the specification of the present application and performs an equivalent function.

17. Applicant’s argument with respect to claim 3 relies on the fact the claim 3 depends from claim 1. The examiner has addressed the arguments regarding claim 1 above.

Conclusion

18. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

19. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

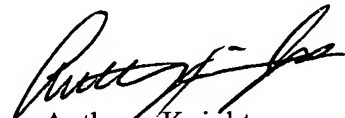
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20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J Kyle whose telephone number is 703-305-3614. The examiner can normally be reached on Monday - Friday, 8:30 am - 5:00 pm.

21. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on 703-308-3179. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9326 for regular communications and 703-872-9327 for After Final communications.

22. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2168.

mk
July 16, 2003



Anthony Knight
Supervisor Patent Examiner
Technology Center 3600